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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,749	05/23/2001	Tadashi Fukumoto	Ishii Case 16	9164
7590 11/18/2003			EXAMINER	
FLYNN, THIEL, BOUTELL & TANIS, P.C. 2026 Rambling Road Kalamazoo, MI 49008-1699			SALDANO, LISA M	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/863,749

Applicant(s)

FUKUMOTO ET AL.

Examiner

Lisa M. Saldano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6, 7 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7, 12 and 22 is/are allowed.
- 6) ☒ Claim(s) 13-18, 21, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 13-15, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Lenson (4,978,247).

Regarding claims 13 and 15, Lenson discloses a breakwater structure 10 comprising an open box with at least one hole 36 formed at the bottom of the structure. The invention comprises a vertical wall 14 for producing a breakwater at the offshore side wherein the vertical wall has an opening at a lower surface 32 (see Fig. 1). Lenson further discloses slits 20 that form passages with respect to the direction along which waves propagate. The slits 20 are disposed at a top portion 15 of the box. Note that the definition of slit as provided by the *Merriam-Webster's Collegiate Dictionary, 10th edition*, is as follows: a long narrow cut or opening. See Fig.2 of Lenson, whereby the slits 20 are shown in dotted lines forming long narrow openings or passageways.

Regarding claim 14, Lenson discloses a breaking wave generation section delimited by the closed upper portion of upper surface 15 existing between the vertical call 14 and the beginning of slits 20.

Regarding claim 21, Lenson further discloses that the breakwater structure is supported by legs 34a,b and that the height of the coastal side of the box 16 is higher than the vertical wall 14 such that slits 20 in the structure become higher toward the coastal side of the upper surface 15 (see Fig. 1 and 2).

Regarding claim 23, Lenson discloses a method of forming a breakwater along the shore of a body of water which attenuates waves comprising the apparatus as discussed above (see claim 9).

3. Claims 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Umeda (JP-05331817-A).

Regarding claims 16 and 18, Umeda (JP-05331817-A), discloses a breakwater structure that is capable of being submerged comprising an open box 70, 90 having a vertical wall 74, 94 for producing a breakwater at an offshore side wherein the vertical wall has openings 84, 114 at a lower end and inclined slits (80 a,b,c), (112, 122) with respect to the direction along which waves propagate disposed at the top portion of the box. Umeda also discloses that the box 70, 90 is formed as two stages (74a,76), (96,98) with a through-path provided from the reef to the coastal side of the breakwater structure. Umeda further discloses that the box is placed on a mound.

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Regarding claim 17, Umeda discloses a breaking wave generation section formed as a closed upper portion 96 between the vertical wall 94 and slits 122, 112 (see Fig.5).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda .

Umeda (JP-05331817-A), discloses a breakwater structure that is capable of being submerged comprising an open box 70, 90 having a vertical wall 74, 94 for producing a breakwater at an offshore side wherein the vertical wall has openings 84, 114 at a lower end and inclined slits (80 a,b,c), (112, 122) with respect to the direction along which waves propagate disposed at the top portion of the box. Umeda also discloses that the box 70, 90 is formed as two stages (74a,76), (96,98) with a through-path provided from the reef to the coastal side of the breakwater structure. Umeda further discloses that the box is placed on a mound.

However, Umeda fails to explicitly disclose that the invention comprises a method of attenuating waves.

It would have been obvious to one of ordinary skill in the art at the time of the invention to develop the method steps of attenuating waves with a submerged breakwater from the

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apparatus disclosure provided by Umeda because Umeda's disclosure provides the basic steps required in the method presented by the applicant of the present invention.

Allowable Subject Matter

6. Claims 12, 6, 7 and 22 are allowed over the prior art of record.

7. Claims 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for allowance:

Regarding claims 12, 19 and 22, the closest prior art of record, Umeda (JP-05331817-A), discloses a breakwater structure that is capable of being submerged comprising an open box 70, 90 having a vertical wall 74, 94 for producing a breakwater at an offshore side wherein the vertical wall has openings 84, 114 at a lower end and inclined slits (80 a,b,c), (112, 122) with respect to the direction along which waves propagate disposed at the top portion of the box. Umeda also discloses that the box 70, 90 is formed as two stages (74a,76), (96,98) with a through-path provided from the reef to the coastal side of the breakwater structure. Umeda further discloses that the box is placed on a mound. However, Umeda fails to disclose that the

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breakwater structure comprises an opening end of the through-path provided to a base of a mound in combination with the rest of the limitations claimed by applicant in claim 12.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 20, the closest prior art of record, Lenson (4,978,247) as discussed above, fails to disclose that the breakwater structure is placed on a support comprising a leg structure in combination with the rest of the limitations as provided by claim 20 and claim 13, from which claim 20 depends.

Response to Arguments

10. Applicant's arguments with respect to claim 13 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's arguments filed in the amendment filed on August 11, 2003 have been fully considered but they are not persuasive.

Regarding the applicant's argument on page 6, last paragraph, regarding the interpretation of the preamble "submerged breakwater," the examiner states that claims are

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examined based on their structural limitations and their capability to be used in various conditions. Each of the inventions cited by the examiner as prior art are capable of being submerged in a body of water and performing the function of wave attenuation is some capacity. Furthermore, the applicant or any user of the present invention does not have control over the tide of a body of water once the invention has been placed therein. That said, if the invention is in place during low tide, the invention will not be in a "submerged" condition. Again, claims are examined based on their structural limitations and their capability to be used in given various conditions.

Regarding the applicant argument on page 8, last paragraph regarding claim 16, examiner directs the applicant's attention to the embodiments of the Umeda invention labeled 90 and 70. These embodiments of the breakwater structure clearly comprise opening below the central portion of their respective vertical walls as discussed more fully in the rejection above.

Regarding the applicant's arguments about counting a portion of Umeda's invention a stage, the examiner states that the definition of a stage, as provided by Merriam-Webster's Collegiate Dictionary, 10th edition is as follows: *one of a series of positions or stations one above another: step*. Since the applicant has not provided a definition of stage that reads over the stage provided by the invention of Umeda, the rejection of claim 16, as stated fully above, is deemed proper given the broadest interpretation of the limitation of a "stage."

Regarding the applicant's argument on page 9, second paragraph, regarding the validity of Lenson's elements 20 being considered slits, the applicant is directed to the rejection above wherein the examiner has stated the definition of slit relied upon to provide basis for the interpretation and subsequent rejection.


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


HEATHER SHACKELFORD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

lms